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Living with Breast Cancer in India: Developing Technology against Experiences and Perceptions

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INTRODUCTION

Breast cancer exhibits a higher prevalence in India, being three to four times more common, particularly in regions like the Northeast and major political metropolises such as Mumbai and New Delhi. Efforts are needed not only to raise awareness but also to enhance access to diagnosis, information, and statistics regarding the challenges faced by women, including their health-seeking behavior, interaction with the public health system, and decision-making processes related to breast health care. Increased awareness and reinforcement of Breast Self-Examination (BSE) and Clinical Breast Examination (CBE) are essential [1]. Given the elevated incidence of breast cancer and unexplained higher mortality rates in India, there is a critical need to assess cancer literacy levels, especially considering that the average diagnostic age for this condition in India is ten years younger than that of women in Western nations. Evaluating the current levels of cancer awareness is crucial for the development of comprehensive health programs, effective therapies, and early detection initiatives that cater to the unique needs of patients [2].

The healthcare landscape is undergoing a digital revolution, marked by the integration of new technologies and data streams. Industries are increasingly focusing on leveraging these advancements, utilizing genomic information for mining purposes, identifying novel drug targets, pinpointing patients suitable for targeted and personalized treatment, and establishing real-time tracking systems for clinical trials. This transformation underscores the need for adapting to technological innovations in the healthcare sector, ushering in new possibilities for research, treatment, and patient care [3].

RESEARCH OBJECTIVES

1. To investigate the factors influencing the uptake of breast cancer screening, focusing on the spatial patterns prevalent in India.
2. To assess patients' beliefs regarding treatment, management, and the need for clinical practice guidelines.
3. To understand the spatial distribution of socio-economic, demographic, and health data over time.

RESEARCH METHODOLOGY

The research methodology began with a systematic exploration of academic literature and the latest updates from news and articles, utilizing a combination of keywords on bibliographical databases. This search procedure involved a comprehensive review of literature, emphasizing the identification of research issues, retrieval of pertinent studies, and the collection of diagrammatic data. Primary and secondary searches were conducted using index keywords related to breast cancer, risk factors, and India. The study focused on evaluating risk factor literacy and perceptions of breast cancer in the context of technological advancements. The analysis categorized risk variables, classifying the strength of evidence as either sufficient/convincing, insufficient/low, or lacking definitive evidence.

The surveyed population encompassed diverse geographical regions in India, including the Western, Northern, and Southern parts of the country. Data sources included the National Cancer Registry Program, publications from the World Health Organization, the National Family Health Survey (NFHS), and twenty-five population-based cancer registries (PBCRs)

across India. The analytical process involved examining three key aspects that influenced the beliefs, experiences, and behaviours of women seeking breast health treatment in India—namely, sensitization, beliefs, and resources. These variables served as categories to illustrate impediments and facilitators in breast cancer identification, treatment, and support. The study was structured into two sections: Section I delved into existing material on breast cancer patients, their treatment methods, and technological developments, with a specific focus on the survival phase. Section II comprised a comprehensive thesis that presented the findings of qualitative research, exploring technological knowledge and patients' perspectives on therapy across the spectrum of breast cancer treatment.

RESULTS AND DISCUSSION

The study, encompassing 10,299 women across diverse age groups and income brackets, offers a comprehensive insight into the attitudes towards breast reconstruction in India. Despite a prevalent acknowledgment of the emotional impact post-mastectomy, with 77.5% expressing potential depression, the desire for breast reconstruction is pronounced, particularly among those earning less than 20,000 rupees monthly (63.3%). However, the actual rate of breast rebuilding remains strikingly low at less than 1%, uncovering challenges discussed in the study's subsequent tables. Noteworthy is the comparison across age groups and income brackets, revealing varied preferences and disparities. Strategies to improve awareness, affordability, and operational efficiency are proposed to address the multifaceted challenges hindering breast reconstruction.

The study identifies the prominent role of social media in creating awareness and emphasizes the preference for autologous

reconstruction methods, notably the DIEP flap, despite concerns about cost and duration. Critically, the analysis underscores the need for concerted efforts to mitigate financial barriers, enhance insurance coverage, and streamline the reconstruction process, especially considering the economic disparities prevalent in the healthcare landscape of India. Despite certain limitations, the study serves as a valuable resource for policymakers and healthcare professionals aiming to augment breast reconstruction facilities in India and similar underdeveloped regions, ultimately addressing the complex interplay of social, economic, and healthcare factors influencing women's choices and access to post-mastectomy reconstruction.

CONCLUSION

Breast cancer has gained prominence as the most frequent malignancy among urban Indian women, despite its overall lower incidence in comparison to developed countries. The inadequate sensitivity to breast cancer, coupled with poor public health awareness, necessitates a multifaceted approach to address the rising incidence and mortality rates. The projections for increasing cancer cases by 2020 highlight the urgency to strengthen diagnostic and treatment facilities. It is crucial to enhance awareness, implement preventive measures, and establish early detection screening programs. Additionally, the success of medical innovations, such as fluorescence imaging, hinges on a patient-centred approach and the consideration of cultural factors for effective dissemination across diverse segments of society. Breast cancer screening emerges as a pivotal element in this comprehensive strategy, emphasizing the importance of educating women about early symptom recognition. The recent emphasis on health awareness, early detection, and comprehensive treatment protocols reflects a

positive trend towards improving breast cancer management and screening support. Moving forward, a continued focus on these aspects is essential to effectively combat the disease burden of breast cancer in India and promote holistic cancer control.

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